

REMARKS

Claims 1-20 are pending in the application. Claims 2, 4, 6, 8, 10, 12, 14, 16, 18, and 19 have been previously withdrawn from consideration. Claim 1 has been amended to clarify that a plurality of developing units are arranged in rows which extend longitudinally in a direction at least substantially perpendicular to a main scanning direction. Support for the amendment is found at least in the original specification at page 4, line 30 and in the drawings, for example, Figs. 1 and 2. New independent claim 20 has been added. Support for new claim 20 is found at least in the original specification at page 4, line 28 through page 13, line 25, and in the drawings, particularly Figs. 1-10. No new matter has been added by the foregoing amendments.

Claim Rejection – 35 U.S.C. § 102 – claims 1, 3, 7, 9, 11, 13, 15, and 17

The Examiner has rejected claims 1, 3, 7, 9, 11, 13, 15, and 17 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication No. 2003/0053819 (Nomura *et al.*, hereinafter “Nomura”) The Examiner asserts that Nomura discloses the invention as claimed in the rejected claims. The rejections of claims 1, 3, 7, 9, 11, 13, 15, and 17 are respectfully traversed.

Nomura discloses an image formation system for forming color images comprising a plurality of photosensitive drums, or image carriers 41Y, 41M, 41C, and 41K integrated into a single cartridge 40. With reference to Fig. 1, Nomura in particular discloses the image carriers 41Y, 41M, 41C, and 41K being arranged in series relative to a path traveled by a transfer belt 30 as the transfer belt 30 accepts a primary transfer of a color image. The transfer belt 30 operates to secondarily transfer the color image to a recording medium P (for example, a piece of paper). That is, as the transfer belt 30 travels through the image formation system, a given section of the transfer belt 30 sequentially contacts each of the image carriers 41Y, 41M, 41C, and 41K. A yellow component of the color image is first applied to a given section of the transfer belt 30, followed by a magenta component, a cyan component, and finally a black component of the color image. With reference to Fig. 3, the image carriers 41Y, 41M, 41C, and 41K are disclosed to each have substantially the same width, and to each extend over a substantial portion of the entire width of the image formation system.

Claim 1, as amended, recites, *inter alia*,

...
a plurality of removable developing units each of which has
**an image carrier whose width is narrower than a width of a
printable area of a printing medium;** and
a driving unit for driving the plurality of the removable
developing units;
the plurality of the removable developing units being
disposed in different rows, **each row extending in a longitudinal
direction at least substantially perpendicular to a main
scanning direction** such that one end of an image producing area
of an image carrier of a first developing unit coincides with one
end of an image producing area of an image carrier of a second
developing unit adjoining to the first developing unit;...
(Emphasis added.)

The “main scanning direction” recited in claim 1 is a direction extending parallel to a longitudinal, lengthwise dimension of the developing units. That is, the “main scanning direction” is perpendicular to the direction of travel of the print media as the print media progresses through the image forming apparatus. See page 4, line 30, which clarifies that the “main scanning direction” is a “cross feed direction”. With this understanding of the terminology, it is clear from Fig. 1, for example, that the illustrated embodiment of an image forming apparatus comprises three developing units disposed in respective developing unit recesses 16a, 16b, and 16c, arranged in three rows arranged parallel to the print media feed direction (or, stated otherwise, perpendicular to the main scanning direction).

Nomura fails to disclose at least the features of (1) a plurality of removable developing units each of which has an image carrier whose width is narrower than a width of a printable area of a printing medium and (2) the plurality of the removable developing units being disposed in different rows, each row extending in a longitudinal direction at least substantially perpendicular to a main scanning direction (or, equivalently, parallel to a print media feed direction). Relative to feature (1), Nomura is silent regarding the width of the image carriers 41Y, 41M, 41C, and 41K relative to the width of the recording medium P, and clearly does not disclose a plurality of image carriers each having a width narrower than a width of a printable area of a printing medium. Relative to (2), Nomura can be interpreted in two ways. First, Nomura discloses the image carriers 41Y, 41M, 41C, and 41K being arranged in four different rows, each row

extending in a longitudinal direction at least substantially **parallel** (as opposed to perpendicular) to a main scanning direction (a direction perpendicular to the direction of travel of transfer belt 30). Second, Nomura could be interpreted to disclose the image carriers 41Y, 41M, 41C, and 41K being arranged in but **a single common row** (as opposed to different rows) extending in a longitudinal direction at least substantially perpendicular to a main scanning direction.

As Nomura fails to disclose each and every element of claim 1, as amended, Applicants respectfully submit that claim 1, along with claims 3, 7, 9, 11, 13, 15, and 17 depending from claim 1, are not anticipated by Nomura, and request that the rejection of these claims under 35 U.S.C. § 102(b) be withdrawn.

Claim Rejection – 35 U.S.C. § 103 – claim 5

The Examiner has rejected claim 5 under 35 U.S.C. § 103(a) as being unpatentable over Nomura in view of U.S. Patent No. 5,541,720 (Haneda). The Examiner states that Nomura fails to disclose a developing unit guide installed in a main body of an image forming device so as to be rotatable about a shaft fixed to a main body and pivoting one end of the developing-unit guide. The Examiner relies upon Haneda for disclosure of a developing-unit guide installed in a main body of an image forming apparatus so as to be rotatable about a shaft fixed to the main body and pivoting one end of the developing-unit guide. The Examiner asserts that it would have been obvious to modify the developing-unit guide disclosed by Nomura to be rotatable about a shaft fixed to a main body as disclosed by Haneda to allow the developing-unit guide to be detached or attached to the main body in a simple and easy way. Applicant respectfully traverses this rejection.

When making a rejection under 35 U.S.C. § 103, the Examiner has the burden of establishing a *prima facie* case of obviousness. The Examiner satisfies this burden only by showing (1) some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the references, (2) a reasonable expectation of success and (3) the prior art references much teach or suggest all of the claim limitations (see MPEP 706.02(j)). The teaching or suggestion to make the claim combination and reasonable expectation of success must be found in the prior art and

not from the applicant's disclosure (see MPEP 706.02(j)). Further, the mere fact that the prior art could be modified in the manner proposed by the Examiner, does not make the modification obvious unless the prior art suggests the desirability of the modification. Ex parte Dussaud, 7 U.S.P.Q. 2d 181, 1820 (PTO Bd. App. & Int. 1988).

Haneda discloses a color image forming apparatus having a process cartridge 2102 and a color developing unit 2002. The process cartridge 2102 is housed within an upper body 10A. The upper body 10A further houses an image exposure means 113. The color developing unit 2002 is housed within a lower body 10B. The upper body 10A is hingedly coupled to the lower body 10B at a shaft 3.

Applicant initially notes that it is not clear what element the Examiner has relied upon to disclose the developing-unit guide. Relative to the rejection of claim 7, the Examiner identifies frame 70 as the developing-unit guide. However, relative to the rejection of claim 5, the Examiner appears to identify the image exposure means 113 as a developing-unit guide. Assuming that the Examiner has relied upon the image exposure means 113 of Haneda to disclose a developing-unit guide, Applicant respectfully notes that one of ordinary skill in the art would recognize the image exposure means 113 as being fixedly coupled to the housing upper body 10A. Haneda does not disclose the image exposure means 113 being movably coupled to the housing upper body 10A. Haneda does disclose the upper body 10A being pivotally coupled to the lower body 10B by shaft 3. Haneda does not disclose, as recited in claim 5, a "developing-unit guide" both installed in a main body and pivotable about one end of the developing-unit guide. As Haneda clearly does not disclose a developing-unit guide pivotally connected at one end, Applicant's further analysis is based upon reliance of the Examiner for the frame 70 to disclose a developing-unit guide and further upon reliance of the Examiner for the pivotal connection of the upper body 10A to the lower body 10B to disclose a pivotal connection at one end of the developing-unit guide.

Nomura and Haneda are not properly combinable under 35 U.S.C. § 103(a). Nomura discloses a photosensitive member cartridge frame 70. Nomura discloses the frame 70 to be received within a housing by sliding the frame 70 relative to the housing. The Examiner has

proposed that the frame 70 be pivotally attached to the housing. The artisan would immediately recognize the awkwardness and undesirability of the proposed modification. The frame 70 installs beneath an upper portion of the image formation system, including an output tray 68. To make the frame 70 rotatably attached to the housing as proposed by the Examiner would necessitate very substantial re-design of the image formation system. The proposed modification would provide no operational, cost, or manufacturing advantage over the design disclosed by Nomura, and would indeed only entail the burden of a costly re-design. Thus, the artisan would immediately recognize the cost and effort of the proposed modification to be a great disincentive to the proposed modification.

However, assuming *arguendo* that Haneda is properly combinable with Nomura, Nomura and Haneda, both in the proposed combination and individually, fail to disclose at least the features recited in claim 1, as amended, of (1) a plurality of removable developing units each of which has an image carrier whose width is narrower than a width of a printable area of a printing medium and (2) the plurality of the removable developing units being disposed in different rows, each row extending in a longitudinal direction at least substantially perpendicular to a main scanning direction.

Neither combination nor modification of Nomura and Haneda is taught or suggested by the prior art. Even if combined, the proposed combination would fail to teach, disclose or suggest all of the elements of claim 1, and thus all of the elements of claim 5 depending from claim 1. It is therefore respectfully submitted that a *prima facie* case for obviousness has not been established with respect to claim 5. Accordingly, it is respectfully requested that the rejection of claim 5 under 35 U.S.C. § 103(a) be withdrawn.

New Claim 20

Applicant has added new independent claim 20. As noted above, support for new claim 20 is found at least in the original specification at page 4, line 28 through page 13, line 25, and in the drawings, particularly Figs. 1-10. Applicant submits that new claim 20 is allowable over the prior art of record. In particular, Nomura and Haneda each fail to disclose at least the features of (1) first and second image bearing bodies each having a length shorter than a dimension of a

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print medium, and (2) the first and second image bearing bodies being staggered relative to one another such that a first image formed by the first image are contiguous with each other to form a complete image. Accordingly, Applicant respectfully requests allowance of new claim 20.

CONCLUSION

In view of the foregoing amendment and remarks, Applicant respectfully submits that the present application, including claims 1, 3, 5, 7, 9, 11, 13, 15, 17, and 20, is in condition for allowance, and such action is respectfully requested.

Respectfully submitted,

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